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ANTONELLI, TERRY, STOUT & KRAUS, LLP			GRAYBILL, DAVID E	
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ARLINGTON, VA 22209-3873				
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE		DELIVERY MODE	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.	10/801,697	Applicant(s)	ISHII ET AL.
Examiner	David E. Graybill	Art Unit	2822

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1, 7-11-16 and 18-20 is/are pending in the application.  
4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1,7,8,11-16 and 18-20 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 17 March 2004 and 25 January 2007 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date ____.	6) <input type="checkbox"/> Other: ____

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, every feature of claims 8 and 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The undescribed subject matter is the entirety of the claim.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 7, 8, 11-16 and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 The following is a quotation of MPEP 2111.01 [R-3] Plain Meaning:

I. THE WORDS OF A CLAIM MUST BE GIVEN THEIR "PLAIN MEANING" UNLESS THEY ARE DEFINED IN THE SPECIFICATION

While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center, \*\*>367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004)* (The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation.). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. *In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)* (discussed below); *Chef America, Inc. v. Lamb-Weston, Inc., 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004)* (Ordinary, simple English words whose meaning is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are construed to mean exactly what they say. Thus, "heating the resulting batter-coated dough to a temperature in the range of about 400°F to 850°F" required heating the dough, rather than the air inside an oven, to the specified temperature.). One must bear in mind that, especially in nonchemical cases, the words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification. See, e.g., *Liebel-Flarsheim Co. v. Medrad Inc., 358 F.3d 898, 906, 69 USPQ2d 1801, 1807 (Fed.*

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Cir. 2004)(discussing recent cases wherein the court expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment). It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language. *In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970). See also *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875, 69 USPQ2d 1865, 1868 (Fed. Cir. 2004) ("Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment."); *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) ("Interpretation of descriptive statements in a patent's written description is a difficult task, as an inherent tension exists as to whether a statement is a clear lexicographic definition or a description of a preferred embodiment. The problem is to interpret claims in view of the specification' without unnecessarily importing limitations from the specification into the claims."); *Altiris Inc. v. Symantec Corp.*, 318 F.3d 1363, 1371, 65 USPQ2d 1865, 1869-70 (Fed. Cir. 2003) (Although the specification discussed only a single embodiment, the court held that it was improper to read a specific order of steps into method claims where, as a matter of logic or grammar, the language of the method claims did not impose a specific order on the performance of the method steps, and the specification did not directly or implicitly require a particular order). See also paragraph III., below. There is one exception, and that is when an element is claimed using language falling under the scope of 35 U.S.C. 112, 6th paragraph (often broadly referred to as means or step plus function language). In that case, the specification must be consulted to determine the structure, material, or acts corresponding to the function recited in the claim. *In re Donaldson*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994) (see MPEP § 2181- § 2186). In *In re Zletz*, *supra*, the examiner and the Board had interpreted claims reading "normally solid polypropylene" and "normally solid polypropylene having a crystalline polypropylene content" as being limited to "normally solid linear high homopolymers of propylene which have a crystalline polypropylene content." The court ruled that limitations, not present in the claims, were improperly imported from the specification. See also *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) ("Claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their broadest reasonable interpretation." 710 F.2d at 802, 218 USPQ at 292 (quoting *In re Okuzawa*, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976)) (emphasis in original). The court looked to the specification to construe "essentially free of alkali metal" as including unavoidable levels of impurities but no more.). Compare *In re Weiss*, 989 F.2d 1202, 26 USPQ2d 1885 (Fed. Cir. 1993) (unpublished decision - cannot be cited as precedent) (The claim related to an athletic shoe with cleats that "break away at a preselected level of force" and thus prevent injury to the wearer. The examiner rejected the claims over prior art teaching athletic shoes with cleats not intended to break off and rationalized that the cleats would break away given a high enough force. The court reversed the rejection stating that when interpreting a claim term which is ambiguous, such as "a preselected level of force", we must look to the specification for the meaning ascribed to that term by the inventor." The specification had defined "preselected level of force" as that level of force at which the breaking away will prevent injury to the wearer during athletic exertion. It should be noted that the limitation was part of a means plus function element.)

In claims 1 the scope of the language "polymide" is unclear because the language is not clearly defined in the disclosure and it otherwise has no plain meaning.

In claims 1 and 18 there is insufficient antecedent basis for the language "the polyimide."

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 7, 11, 14, 16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Clayton (6049975), Higashiguchi (6023098) and Abbot (20030137032).

At column 4, line 59 to column 9, line 24; column 10, lines 39-61; column 11, line 31 to column 12, line 25; column 17, lines 7-29; column 17, line 53 to column 19, line 45; and column 30, lines 44-55, Clayton discloses an electronic circuit apparatus comprising: a multilayered wiring board 50 mounted with at least two electronic components 54; a polyimide "polyamide" wiring board 50 mounted with at least one heat generating component 54; a heat sink 48 having an inherently higher heat conductivity than those of the multilayered wiring board and a polyimide wiring board, wherein the multilayered wiring board is fixed to one surface of the heat sink via adhesive 52 and the polyamide wiring board is fixed to another surface 48' of the heat sink via a adhesive 52; an external connection terminal (60) and "conductive lines and traces routed across the surface") to which the multilayered wiring board and/or the polyamide wiring board is electrically connected; and a resin composition 70 with which the entire surfaces of the multilayered wiring board and the polyamide wiring board, a part of the heat sink and a part of the external connection terminal (at least "conductive lines and traces routed across the surface") are integrally molded; wherein a part of a passage for circulating a cooling medium "coolant" is inherently

formed in an external layer of the electronic circuit apparatus; wherein at least two electronic circuit apparatuses are stacked on top of each other (Figure 28A), and wherein the passage for circulating cooling medium is provided in the stacked electronic circuit apparatuses; wherein the heat sink is made of a clad material containing a copper alloy or copper; wherein the multilayered wiring board comprises at least one ceramic substrate; wherein the polyamide wiring board is bent at least one end such that the polyamide wiring board is fixed to the another surface of the heat sink via the adhesive and fixed at the at least one end to the one surface of the heat sink; wherein the multilayered wiring board and the polyamide wiring board are electrically connected.

To further clarify the disclosure of the heat sink having an inherently higher heat conductivity than those of the multilayered wiring board and a polyimide wiring board, it is noted that Clayton discloses that the heat sink is "stainless steel," and stainless steel inherently has a higher heat conductivity than the polyamide multilayered wiring board, and a polyimide wiring board. In any case, Clayton discloses that heat conductivity is a result-effective variable. Moreover, as reasoned from well established legal precedent, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose the particular claimed heat conductivity limitations

because applicant has not disclosed that, in view of the applied prior art, the limitations are for a particular **unobvious** purpose, produce an unexpected result, or are otherwise critical. For that matter, applicant has not disclosed that the higher heat conductivity is for **any** purpose or produces **any** result. Furthermore, it appears *prima facie* that the product would possess utility using another heat conductivity. Indeed, it has been held that optimization of range limitations are *prima facie* obvious absent a disclosure that the limitations are for a particular **unobvious** purpose, produce an unexpected result, or are otherwise critical. See MPEP 2144.05(II): "Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. '[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.'" In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955). See also In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969), Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989), and In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990). As set forth in MPEP 2144.05(III), "Applicant can rebut a *prima facie* case of obviousness based on overlapping ranges by showing the criticality of the claimed range. 'The law is replete with cases in

which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.' In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 716.02 - § 716.02(g) for a discussion of criticality and unexpected results."

To further clarify the disclosure wherein a part of a passage for circulating a cooling medium is inherently formed in an external layer of the electronic circuit apparatus, it is noted that it is inherent that the "entrance channel" and the "exit channel" must communicate with a coolant passage formed in an external layer of the apparatus.

However, Clayton does not appear to explicitly disclose a polyimide wiring board.

Nonetheless, Clayton discloses a polyamide wiring board. Furthermore, at column 6, lines 4-6, Higashiguchi discloses that polyamide and polyimide are alternatives and equivalents; therefore, as reasoned from well established legal precedent, it would have been obvious to substitute or combine the polyimide of Higashiguchi for or with the polyamide of Clayton. See In re May (CCPA) 136 USPQ 208 (It is our opinion that the substitution of Wille's type seal for the cement of Hallauer in Figure 1 would be obvious

to persons of ordinary skill in the art from the disclosures of these references, merely involving an obvious selection between known alternatives in the art and the application of routine technical skills.); In re Cornish (CCPA) 125 USPQ 413; In re Soucy (CCPA) 153 USPQ 816; Sabel et al. v. The Wickes Corporation et al. (DC SC) 175 USPQ 3; Ex parte Seiko Koko Kabushiki Kaisha Co. (BdPatApp&Int) 225 USPQ 1260; and Ex parte Rachlin (BdPatApp&Int) 151 USPQ 56. See also Smith v. Hayashi, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.). An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted). "For example, where a claimed apparatus requiring Phillips head screws differs

from a prior art apparatus describing the use of flathead screws, it might be hard to find motivation to substitute flathead screws with Phillips head screws to arrive at the claimed invention. However, the prior art would make it more than clear that Phillips head screws and flathead screws are viable alternatives serving the same purpose. Hence, the prior art would 'suggest' substitution of flathead screws for Phillips head screws albeit the prior art might not 'motivate' use of Phillips head screws in place of flathead screws. *Ex parte Jones*, 62 USPQ2d 1206 (BdPatApp&Int 2001). See also *In re Crockett*, 279 F.2d 274, 126 USPQ 186 (CCPA 1960); *Ex parte Quadranti*, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992).

Also, Clayton does not appear to explicitly disclose a thermosetting resin composition; wherein said heat sink is made of a clad material.

Nonetheless, at paragraphs 7, 48, 54, 55, 62 and claim 8, Abbott discloses a thermosetting resin composition 311 wherein a heat sink "leadframe" is made of a clad material 21. Moreover, it would have been obvious to combine this disclosure of Abbott with the disclosure of Clayton because it would facilitate provision of the resin composition and heat sink of Clayton, and, as disclosed by Abbott as cited, it would provide good adhesion of the resin composition and heat sink.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton, Higashiguchi and Abbot as applied to claim 7, and further in combination with Thorum (20020088304).

Clayton, Higashiguchi and Abbot do not appear to explicitly disclose wherein the electronic circuit apparatus is fixed on the interior of an automatic transmission assembly of an automobile.

Notwithstanding, at paragraphs 33-37, Thorum discloses wherein an electronic circuit apparatus 14 is fixed on the interior of an automatic transmission assembly 12 of an automobile. Moreover, it would have been obvious to combine this disclosure of Thorum with the disclosure of the applied prior art because it would facilitate provision and cooling of the apparatus of Thorum.

Also, Clayton, Higashiguchi and Abbot do not appear to explicitly disclose wherein said cooling medium is a transmission fluid.

Nonetheless, the language "for circulating a cooling medium," "wherein said cooling medium is a transmission fluid" is a statement of intended use of the apparatus that does not appear to result in a structural difference between the claimed apparatus and the apparatus of the applied prior art. Further, because the apparatus of the applied prior art appears to have the same structure as the claimed apparatus, it appears to be capable of being used for the intended use, and the statement of intended use does not

patentably distinguish the claimed apparatus from the apparatus of the applied prior art. The manner in which a product operates is not germane to the issue of patentability of the product; Ex parte Wikdahl 10 USPQ 2d 1546, 1548 (BPAI 1989); Ex parte McCullough 7 USPQ 2d 1889, 1891 (BPAI 1988); In re Finsterwalder 168 USPQ 530 (CCPA 1971); In re Casey 152 USPQ 235, 238 (CCPA 1967). Also, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim."; Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). And, "Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims."; In re Young, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 136 USPQ 458, 459 (CCPA 1963)). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function. In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does [or is intended to do]."  
Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Claims 12, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton, Higashiguchi and Abbot as applied to claim 1, and further in combination with Kira (6885522).

Clayton discloses wherein the heat sink is made of a metal compound with electrical conductivity.

However, Clayton, Higashiguchi and Abbot do not appear to explicitly disclose wherein the adhesive comprises a heat-conducting paste containing a highly heat-conductive metal particle and/or a metal oxide particle, and an insulating organic paste; wherein the adhesive is formed by an insulating organic paste; wherein the adhesive is made of a thermosetting resin composition containing an epoxy resin and an inorganic filler.

Still, at paragraphs 59, 68-70, 72, 73, 74, 79, 82 and 100 Vargo discloses an adhesive that comprises a heat-conducting paste containing a highly heat-conductive metal particle and/or a metal oxide particle, and an insulating organic paste; wherein the adhesive is formed by an insulating organic paste; wherein the adhesive is made of a thermosetting resin composition containing an epoxy resin and an inorganic filler. In addition, it would have been obvious to combine this disclosure of Vargo with the disclosure of the applied prior art because it would facilitate provision of the adhesive of the applied prior art.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton, Higashiguchi and Abbot as applied to claim 7, and further in combination with Brandenburg (20060038284).

Clayton, Higashiguchi and Abbot do not appear to explicitly disclose wherein the part of the passage for circulating a cooling medium is formed in the thermosetting resin composition.

Regardless, at paragraphs 13 and 18, Brandenburg discloses wherein a part of a passage for circulating a cooling medium is formed in a thermosetting resin composition. Furthermore, it would have been obvious to combine this disclosure of Brandenburg with the disclosure of the applied prior art because it would facilitate cooling of the apparatus.

Applicant's remarks filed 1-25-7 have been fully considered and are adequately treated *supra*.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**For information on the status of this application applicant should check PAIR:**  
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Alternatively, applicant may contact the File Information Unit at (703) 308-2733.  
Telephone status inquiries should not be directed to the examiner. See MPEP  
1730VIC, MPEP 203.08 and MPEP 102.**

Any other telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.  
The fax phone number for group 2800 is (571) 273-8300.

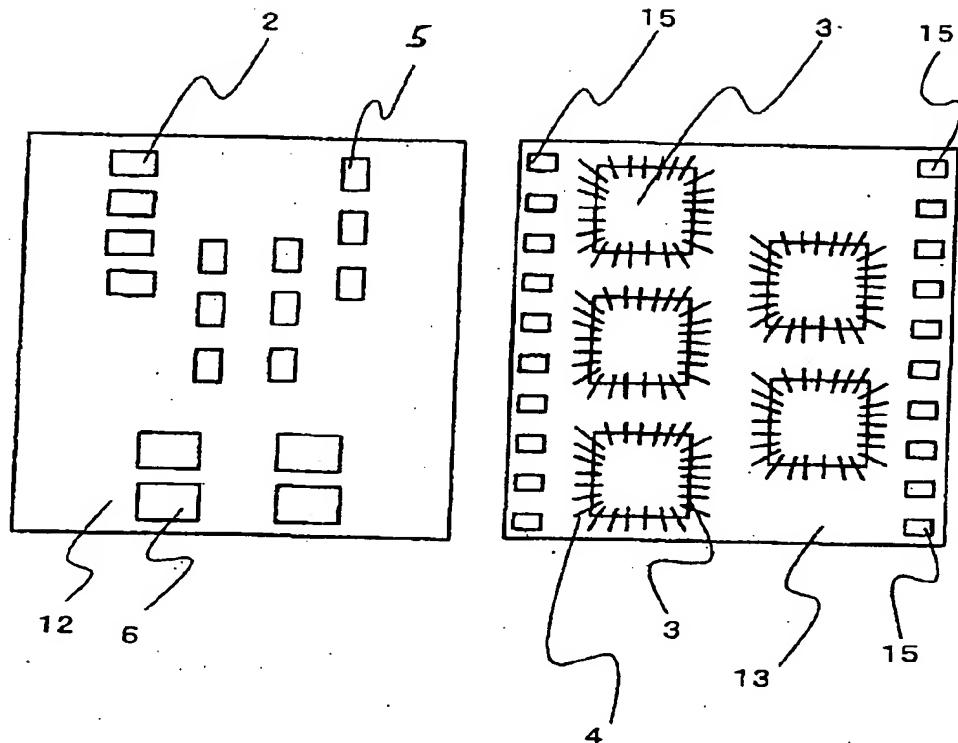


David E. Graybill  
Primary Examiner  
Art Unit 2822

D.G.  
15-Apr-07

Replacement Sheet  
Serial No. 10/801,697

APPROVED  
4-13-7  
FIG. 9



9/13